# Evaluating the Impacts of Outdoor Orientation Programs At The Ohio State University

An Honors Thesis written and presented in partial fulfillment of the requirements for a degree of Bachelor of Science in Environment and Natural Resources with Honors Distinction from the School of Environment and Natural Resources at The Ohio State University

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**Abstract**

Across higher education institutions, pre-enrollment programs (PEP) have been developed to improve the transition experience for incoming students. Of these PEP, outdoor orientation programs have been highly successful in increasing student retention, improving sense of belonging, and increasing student GPA. While there has been previous research looking at programs offered for incoming students at The Ohio State University, there has not been a focused project looking at the differences in outcomes between the various types of programs. Anecdotal evidence suggests that outdoor orientation programs have had success at OSU, but only limited evaluation of these programs has occurred. The aim of this study is to evaluate the impact of outdoor orientation programs on incoming students through the use of quantitative measures. Additionally, this study will examine student outcomes from the other types of PEP. This study utilizes a survey completed by the participants of PEP (n=150) before and after their experience. The survey was developed and administered through the Center for Higher Education Enterprise (CHEE) Department at OSU. Findings indicate differences in student outcomes vary between the type of PEP students participate in. This study will help to further advance our knowledge of pre-enrollment programs offered at The Ohio State University and guide future evaluation initiatives of these programs.

**Acknowledgements**

This project would not have been possible without the support and guidance I received from many along the way. I would first like to thank my advisor, Dr. Greg Hitzhusen for the constant motivation and insight that led me to pursue this research. I have truly felt the assistance and mentorship that an advisor is supposed to offer and even more. I would also like to thank my co-advisor Dr. Kristi Lekies for the constant encouragement and assistance whenever I have asked. I have enjoyed your help throughout my entire process of working with my research. An appreciation also goes to those involved with the Center for Higher Education Enterprise. In particular, I would like to thank Dr. Terrell Strayhorn and Chris Travers for their support and for allowing me to partner with their project for my thesis.

Additionally I would like to thank my parents, friends, and family for their support through my college experience. While the things I've gotten to do while at college have been incredible, the relationships I've had with people are far more rewarding than the things I do. In particular, I have truly appreciated the guidance I have received from my father Dr. Tim Rhodus. I have always enjoyed being able to talk over what I am working on or interested in. I have loved hearing your input on my project as well as having had you be so involved with my college experience.

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# Chapter I

## Introduction

Outdoor orientation programs have been used by colleges and universities for nearly the past 50 years in the United States. Outdoor orientation programs are programs offered to incoming college students designed to help them through their transition into college. These programs were designed to have students reflect on the challenges they face while learning and growing on an outdoor adventure trip. These new skills and reflections on the challenges students faced were intended to help prepare students for the new challenges they will face in college. This process of reflecting on direct experiences in the hopes of coming away with new conceptualizations of what an individual is capable of is the main philosophy of experiential education, (Kolb, 1984).

Outdoor orientation programs began to rise in popularity since emerging across Ivy League universities throughout the 1970's. These programs have seen significant growth particularly over the past thirty years (Bell, Vigneault, Williams, 2008). A census study in 2010 reported there to be over 202 outdoor orientation programs at four-year colleges across the United States with 17,547 participants in 2006 (Bell, Holmes, Williams, 2010). Outdoor orientation programs range in duration, activities, and other factors but typically have a strong focus on the key principles of experiential education.

In particular, outdoor orientation programs have been known for their tremendous successes at preparing students for the social challenges of college. These programs are often praised for their ability to develop strong social bonds between students as well as improving self-efficacy in students. While many of these successes come from personal stories that instructors and program administrators share, empirical evidence on these programs is growing.

In a 2006 study from the University of New Hampshire, Brent Bell compared the results of two wilderness programs at Harvard and Princeton with other pre-orientation programs that stayed on campus. This study focused on social provisions of orientation programs by using the Campus-Focus Social Provisions Scale (CFSPS) to track outcomes. The outcomes were divided into the following six categories: attachment, social integration, reassurance of worth/competence, reliable alliance/tangible support, guidance, and opportunity for nurturance. Wilderness program participants reported higher levels across all six categories of the CFSPS compared to participants in non-wilderness programs, (Bell, 2006). One key component Bell identified as a strength of outdoor programs was the role of interactions with peers, which tend to be heightened in outdoor adventure settings.

**Purpose of the Study**

Currently at The Ohio State University, a variety of orientation programs exist for incoming and transfer students. These programs have been offered to students since 2004 and are run through First Year Experience (FYE) and other departments including the Outdoor Adventure Center (OAC) within Recreational Sports. These orientation programs, or pre-enrollment programs (PEP), range from on-campus leadership programs to outdoor adventure trips. The following categories are used to differentiate between the three types of programs: outdoor adventure, leadership, and special eligibility.

Since 2012, the Center for Higher Education Enterprise (CHEE) has partnered with FYE to evaluate the student outcomes of participation with pre-enrollment programs. These evaluations have been focused on different outcome factors centered on increasing retention rates for first year students. While these evaluations have provided analysis of many important general outcomes of orientation programs, there has never been an in-depth look specifically at the

outdoor adventure programs at The Ohio State University. There also has not been any focused attention on some of the particular outcome variables that other researchers have identified as reflecting strengths of outdoor programs.

In addition to the studies conducted by CHEE, the outdoor adventure PEP trip participants complete a separate program evaluation through the Outdoor Adventure Center. These program evaluations are conducted for all OAC trips and are focused on both instructor and program development, rather than student outcomes and changes due to their experience, and thus these evaluations also have not included outcomes measures specific to outdoor orientation programs such as those used by Bell and colleagues (2006). The main indicator of success from outdoor adventure PEP trips has been from the stories instructors have shared about watching their students grow. While anecdotal evidence has been impactful previously, the programs at The Ohio State University are in great position to add to the empirical knowledge of the field and to further improve their programs based on more comprehensive quantitative analysis. The variety of pre-enrollment programs analyzed in this study will also be of interest to compare these results with other studies in the field that look at evaluations comparing between different types of orientation programs.

**Objectives of the Study**

This study is designed to measure the impact outdoor orientation programs have on students at The Ohio State University. Specifically, this study is intended to determine if outdoor adventure PEP trips have similar impacts on students as they have in other research studies on outdoor orientation programs, and to better understand what the current evaluations of outdoor orientation programs at The Ohio State University can provide. While neither the CHEE survey nor OAC program evaluations have used the CFSPS as a metric to track student outcomes, the

CHEE survey added specific outcome questions for each program type for the first time in 2015. Due to these additional questions, we may expect to see some of the successes of outdoor programs to be reflected in PEP evaluation results.

An early goal of this study was to include a full suite of outdoor orientation program specific survey questions to the CHEE survey for this year. Due to concerns about consistency between evaluations across all OSU PEP evaluations, additional program-specific questions were limited to only a few. Due to this limitation, this analysis examines, in part, the extent to which those specific measures provide the sort of understanding we might expect to gain from a more comprehensive quantitative analysis.

Upon reviewing the literature and the current evaluation methodology of pre-enrollment programs at The Ohio State University, two research questions were developed. These questions examined changes in students' perceptions on a variety of outcome measures ranging from their confidence in their transition to their leadership abilities.

1.) Is there a difference in students' perceptions after having attended an outdoor adventure pre-enrollment program?

2.) Is there a difference in students' perceptions after having attended any pre-enrollment program?

It is hypothesized that there will be a difference in student perception outcomes of outdoor adventure pre-enrollment programs compared to other pre-enrollment programs. Of the outcomes that were used in the CHEE sample, previous literature in the field would suggest that the outdoor adventure PEP trips would result in greater levels of change for certain outcomes such as social and self efficacy than the other types of programs.

# Chapter II

## Review of Literature

This section is the literature review, which examines the origin of outdoor orientation programs. This section also looks at the research that has been conducted on these programs.

### Outdoor Orientation Programs

All throughout the United States, colleges and universities offer orientation programs for incoming students. These programs vary greatly based on the number of students, activities covered, and even duration of program. However, the goals behind an orientation program are consistently focused on preparing students for the transition from their previous experiences to the new collegiate experience they are starting.

As discussed by Upcraft and Farnsworth (1984), institutions have both philosophical and practical reasons for why they would put effort towards their students' transition to college. The philosophic side is that they have an obligation to help set their students up for success during their education. The practical side is that students are investments that higher education institutions need to protect through not only recruitment but as well as student retention.

One of the most common forms of orientation programs are outdoor programs. Outdoor orientation programs have a long history in the United States and have been growing tremendously in popularity amongst four-year colleges over the past 30 years (Bell, Vigneault, Williams, 2008; Bell, Holmes, Williams, 2010; Galloway, 2000). One of the earliest outdoor programs was developed at Dartmouth College dating back to 1935 (Bell, Holmes, Williams, 2010). This program was not designed particularly to introduce students to college, but more as an introduction to an outdoor pursuits program called Dartmouth Outing Club.

In 1968, Prescott University developed an extensive 21-day wilderness orientation program. Roy Smith, a US Outward Bound (OB) instructor, developed this program (Bell, Holmes, Williams, 2010). Outward Bound is one of the leading organizations in outdoor education around the world. The program that was developed at Prescott University followed many of the principles and practices that OB established.

The Harvard First-Year Outdoor Program developed in 1978 after Henry Moses, Dean of Freshman at Harvard, was inspired by his two-week course with OB (Bell, Holmes, Williams, 2010). He truly wanted to incorporate small-group challenges into their program to help develop social support for freshmen. Now that two major Ivy League schools, Dartmouth and Harvard, had outdoor orientation programs, many others colleges followed this trend throughout the 1970s including Earlham, Cornell, Princeton, Colby, Northland, and University of Vermont (Bell, Holmes, Williams, 2010).

Since then, outdoor orientation programs continued developing and growing in size. According to a census study from Bell, Holmes, and Williams (2010), over 202 four-year college programs offered at least one outdoor orientation program for incoming students. Their study surveyed 164 programs that had small group sizes (15 or fewer) that used adventure experiences and had one overnight in a wilderness setting; 34 programs did not incorporate an overnight portion off campus. Their research found the location of outdoor orientation programs was widespread across the US, following similar trends to where four-year colleges are, and 66% of the programs took place at private colleges, which is not surprising given that 70% of four-year colleges are private.

The average length of programs is 5 ½ days, which typically occur before the first day of classes. In 2006, 63% of programs had students on their waitlists for participating. Most older

programs (established before 1990) have become much larger. These larger programs often have a service component to their trips, (Bell, Holmes, Williams, 2010).

According to an assessment of wilderness programs by Galloway (2000), other common traits amongst 57 programs surveyed were that the most common activities included: backpacking, rock climbing, camp cooking, canoeing, community service, fireside discussion, journaling, low-ropes challenge, and group processes. Goals for the majority of the programs centered around positive peer group development, improved decision-making skills, increased student satisfaction, adjustment and maturity, having fun, and enhanced self confidence/self-esteem. It is interesting to note that the majority of programs had a stronger focus on pro-social development goals rather than simply academic readiness goals.

**Previous Research**

As outdoor orientation programs were developing through the 1970s and 1980s, research on identifying programs and developing connections between them began in the 1980s. Various studies continued to highlight differences in the goals of the programs, the role of student involvement as leaders, and the benefits each program had on students.

Brent Bell, Marion Reid Homes, and Brady G. Williams authored a major census of outdoor programs in 2010 that was mentioned above. This study not only gave a recap of the major research conducted on the subject, but also surveyed different four-year colleges in order to determine: how many outdoor programs are there? Is this number growing? What are distinct and common practices in these programs? How do they differ based on size and age of participants? [1]

[1] While this research does not apply specifically to the benefits students receive from participation in outdoor orientation programs, it does serve as a valuable look into how program design may impact the students' experience.

The main author from this study, Brent Bell, is a leading researcher of various topics related to outdoor orientation programs. Bell is heavily involved with organizing OOPS. The Outdoor Orientation Program Symposium is a two-day workshop that focuses on bringing program leaders together to share information on orientation programing as well as discuss research topics in the field. Bell and others have explored various topics of research ranging from: the role of student involvement, exploring the role of social support, the long-term effect of first-year student programs, and impacts when programs end. According to Bell, Gass, Nafziger, and Starbuck (2014) there have been 25 peer-reviewed surveys in this field as well as 11 dissertations from masters and doctorate students. The leading journal for outdoor orientation program research is the *Journal of Experiential Education.* A majority of these studies have focused on the impacts and differences between these programs.

When looking at the differences between how outdoor orientation programs are run, one area of research looks into the role that student staff play. Bell, Holmes, Vigneault, and Williams (2008) explored the following main questions: who administers the program? What is the minimum number of hours of training you require of your leaders? What are the minimum first-aid requirements of your leaders? Do you have an active risk management committee? Have you ever participated in a formal program review?

When comparing between programs that are administered between student-only programs and professional-run programs (those that have a part-time or full-time director), the only difference found was that student programs were more likely to obtain National Park Service Permits. On average, leaders between both types of programs had 48 hours of training and had basic first aid requirements, with some having Wilderness First Aid requirements and others having Wilderness First Responder requirements. While only 44 out of 164 programs

(27%) had an active risk management committee, 94 programs (58%) do not have a process of review for their programs (Bell, Holmes, Vigneault, Williams, 2008).

**Other Outdoor Education Program Impacts**

Results showing the effectiveness of outdoor programs in developing social provisions is not a new concept. Many college programs have modeled their programs off of Outward Bound principles and policies. OB is one of the leading outdoor education organizations in the world, along with the National Outdoor Leadership School (NOLS) and the Student Conservation Association (SCA). These organizations are known for their profound impact on the participants they serve. A study in 1998 by Stephen Kellert highlighted the benefits participants receive from programs like these:

> A great many respondents reported these relatively brief programs had been among the most satisfying, influential, and worthwhile experiences of their lives. An extraordinary number remarked on how much happier and competent they felt as a consequence of participation. Most expressed the view they had become substantially more confident and capable of coping with everyday life. And, the great majority indicated greater appreciation, awareness, and concern for the natural environment and its conservation because of their participation. These results add support to a growing body of evidence suggesting immersion and challenge in the outdoors, especially wilderness settings, can have meaningful and lasting impacts on especially late adolescents and young adults. (Kellert, 1998, pg 188).

Similar results have also been observed as impacting individuals when exposed to long-term outdoor programing connected with The Ohio State University. A report from Lekies, Bennett, and Krogel (2009) explained the benefits that a youth-based program through OSU Extension was able to have in an adventure based setting. The youth reported various positive impacts as a result of developing relationships with adult counselors in the program. These positive impacts include developing feelings of confidence, mastery, increased self-esteem, and pride.

# Chapter III

## Methodology and Data

This section is focused on the design of the research methodology. This includes the specifics of the survey, programs, outcome measures, and the analysis.

### Research Objectives

1.) Is there a difference in students' perceptions after having attended an outdoor adventure pre-enrollment program?

2.) Is there a difference in students' perceptions after having attended any pre-enrollment program?

It is hypothesized that there will be a difference in student perception outcomes of outdoor adventure pre-enrollment programs compared to other pre-enrollment programs. Of the outcomes that were used in the CHEE sample, previous literature in the field would suggest that the outdoor adventure PEP trips would result in greater levels of change for certain outcomes such as social and self efficacy than the other types of programs.

### Survey

The data used for this survey came from a larger project. The data was collected from the CHEE project titled College Outreach and Academic Support Program (COASP). This study surveyed all participants of pre-enrollment programs during the start of the 2015-2016 school year. PEP participants were asked to complete an electronic survey before and after their programs. The survey links were given to the students from their program directors and the surveys had a limited availability window to ensure they were taken at the correct times. In total, 506 students participated in pre-enrollment programs with 100 being in outdoor adventure PEP

trips. These programs represent 0.07% of the 6,987 incoming freshman to the Columbus campus in 2015. Of the outdoor adventure PEP participants, only 12 responded to both parts of the survey, yielding a 12% response rate. As a whole, 150 students completed both parts of the survey yielding a 30% response rate for all PEP programs. The survey consisted of both demographic questions as well as likert scale based response questions (1 – Strongly Disagree, 2 – Disagree, 3 – Neutral, 4 – Agree, 5 – Strongly Agree). In cooperation with CHEE's IRB approval, the following statement is included:

> "The research was based on restricted data licensed to the researcher(s) by the Center for Higher Education Enterprise (CHEE) at The Ohio State University for the purpose of the study expressed herein. Results are based on independent analysis of restricted data, thus, opinions and conclusions reflect those of the author and not those of the Center."

**Programs**

As mentioned in the introduction, The Ohio State University offers a variety of pre-enrollment programs. For the 2015-2016 school year, 14 different PEPs were offered. These programs ranged in length, location, and activities but were classified into the three different categories. Outdoor Adventure programs are focused on integrating outdoor adventure activities as the primary direct experience for students to engage and reflect upon. Leadership programs are more focused with having students immersed and focused in a variety of activities centered around exploring different aspects of leadership in an on-campus setting. Special Eligibility programs are offered for particular populations of incoming students that may be "at risk" due to a variety of additional challenges these students face. These challenges range from being the first

in their family to attend college to the struggles students of marginalized identities may face. Table 1 depicts the differences between the programs.

**Table 1. Pre-Enrollment Programs**

| Type of PEP | Criteria | Location | Duration | Program Names |
|---|---|---|---|---|
| Outdoor Adventure | Off-campus programs that focus on outdoor adventure activities. | - Upper Peninsula, MI<br>- Hocking Hills, OH<br>- Western NC<br>- New River Gorger, WV | 4 - 10 days | Sea Kayaking Pictured Rocks, H&S Zip/Canoe/Ride, Appalachian Trail Adventure, Buckeyes on the Gorge |
| Leadership | On-campus programs that focus on leadership development. | On-campus | 3-4 days | Leadership Collaborative, R-Lead, Buckeye Service Connection |
| Special Eligibility | Programs that are offered to specific populations of students: transfer, 1st generation college, | On-Campus and Off Campus | 3-21 days | LSAMP STEM Summer Bridge Program Young Scholars Program, Buckeyes First, Early Arrival Program, WiE Leap, PREFACE, Buckeyes on the Gorge Transfer |

**Outcome Measures**

When designing the survey, CHEE organized the questions around different student outcome themes. These outcomes were based on what they believe and the literature suggests as being key components to successful student experiences. The following outcome themes were

measured in all PEP surveys: student self-efficacy; relationships with peers; relationships with staff, faculty, and facilitators; Buckeye community/belonging; confidence in transition.

In addition to the core outcomes, each program was asked what type of specific outcomes they would like to have measured for their program, and then additional questions were added to each program survey accordingly. The additional outcomes for the outdoor adventure programs included the following: team/group contributions; outdoor skills; transfer skills to everyday life; and leadership. A full chart of which programs were asked which outcome questions is available for reference (see Appendix A).

**Analysis**

In order to answer the two research questions, IBM SPSS vs. 23 was used to analyze the data. Descriptive statistical measures were used in order to analyze the difference before and after the students' participation in their respective PEPs. A paired samples t-test was used to determine if there was any difference between the different student outcomes. Due to the low sample size, the non-parametric Wilcox assigned samples test was used to verify the validity of the t-test. The results from the outdoor adventure PEP trips were then compared with the results of all PEP results to understand any differences in outcomes.

# Chapter IV

## Findings

This chapter presents findings on the impact pre-enrollment programs had on student outcomes. The results to each research question is presented here.

### Study Participants

Of the outdoor adventure PEP participants, 33.3% were male and 66.6% were female. These participants identified as 91.7% being white or Caucasian and 8.3% identifying as multiracial. While this diversity is somewhat lower than the OSU population of 18.8% identifying with a minority race or ethnicity, it is consistent with the historical culture of outdoor adventure activities being most common with whites. For their home communities, 83.3% claimed to be from a suburban home area while 16.7% claimed to be from an urban background. There was a variety of intended college majors present as well.

For all PEP participants, 40.0% of respondents were male and 60.0% female. These participants identified as 50.0% white or Caucasian, 27.3% as black or African-American, 12.7% as Latino or Hispanic, 7.3% as multiracial, 1.3% Asian or Pacific Islander, and 1.3% American Indian or Alaskan Native. This total group was more diverse with 50.0% of participants identifying as a minority race, which is far greater than the OSU population. For their home communities, 63.3% claimed to be from a suburban community, 22% claimed they were from an urban community, and 12.7% claimed to be from a rural home community. This total sample also had a variety of intended majors.

**Objective 1:**

**Is there a difference in students' perceptions after having attended an outdoor adventure pre-enrollment program?**

A paired samples t-test was used in order to determine if there were any questions in which there was a significant difference before and after attending an outdoor adventure pre-enrollment program. Of the various outcomes, the following table identifies four pairs that were significantly different and four pairs that were not ($p < .05$). The complete table of all outcomes provided as Appendix B.

**Table 2. Selected Outdoor Adventure PEP Outcomes**

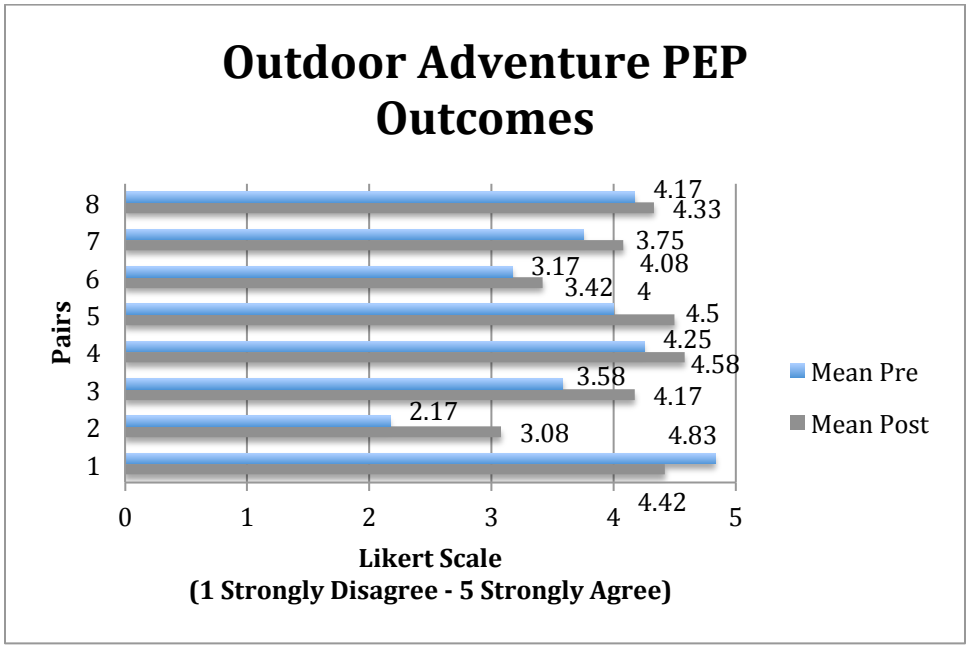
| Outcome Type | Question | Mean Pre | SD Pre | Mean Post | SD Post | Diff. in Means | t | df | P |
|---|---|---|---|---|---|---|---|---|---|
| **Relationship with Peers** | Pair 1<br>I will be meeting people and making friends in college. | 4.83 | 0.389 | 4.42 | 0.669 | -0.417 | 2.803 | 11 | 0.017* |
| **Confidence in Transition** | Pair 2<br>Sometimes I feel that I don't have control over the direction my life is taking. | 2.17 | 0.835 | 3.08 | 0.9 | 0.917 | -4.005 | 11 | 0.002** |
| **Team/Group Contributions** | Pair 3<br>I am comfortable providing feedback to peers when necessary. | 3.58 | 0.9 | 4.17 | 0.835 | 0.583 | -2.244 | 11 | 0.046* |
| | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Outdoor Skills** | Pair 4<br>I am aware of the impact I have on the environment | 4.25 | 0.866 | 4.58 | 0.515 | 0.333 | -2.345 | 11 | 0.039* |
| **Student Self-Efficacy** | Pair 5<br>I feel that I am a person of worth, at least on an equal plane with others | 4 | 1.348 | 4.5 | 0.674 | 0.5 | -1.254 | 11 | 0.236 |
| **Buckeye Community/ Belonging** | Pair 6<br>I feel a sense of belonging at OSU. | 3.17 | 0.718 | 3.42 | 0.669 | 0.25 | -1.149 | 11 | 0.275 |
| **Transfer Skills to Everyday Life** | Pair 7<br>I expect to apply skills I learn in my program to everyday circumstances in college. | 3.75 | 1.055 | 4.08 | 0.793 | 0.333 | -1.076 | 11 | 0.305 |
| **Leadership** | Pair 8<br>I can contribute meaningfully to the growth of my community as a leader. | 4.17 | 0.718 | 4.33 | 0.778 | 0.167 | -1 | 11 | 0.339 |

* = .05 significance level, ** = .01 significance level

The difference in means in the table above is calculated from the independent pair samples test between the results before and after involvement in the outdoor adventure PEP trip. The figure below illustrates the results of the outdoor adventure PEP outcomes. Each pair is associated with the previous outcomes shown in Table 2.

**Figure 1. Selected Outdoor Adventure PEP Outcomes**




The paired samples t-test used in this study indicated a significant difference in four of the thirty-eight questions for the outdoor adventure PEP participants. While positive and negative differences occurred as a result of participation in outdoor adventure PEP trips, these four were the only pairs to be considered significant at a confidence interval of 95% and 99%. These four pairs included questions in the following outcome groups: relationship with peers; confidence in transition; team/group contributions; and outdoor skills. The Wilcox assigned samples test was also used to analyze the data due to small sample size. Results were consistent with those of the paired samples t-test.

**Objective 2:**

**Is there a difference in students' perceptions after having attended any pre-enrollment program?**

A paired samples t-test was also used in order to determine if there were any questions in which there was a significant difference before and after attending any pre-enrollment program.

Of the various outcomes, the following table identifies four pairs that were significantly different and four pairs that were not. The complete table of all outcomes provided as Appendix C.

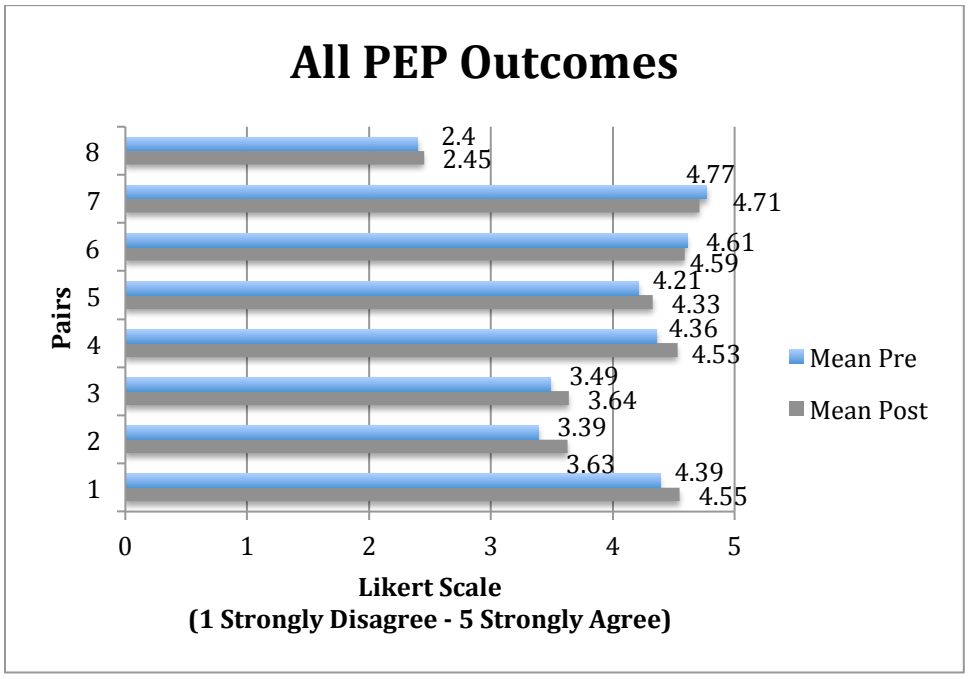
**Table 3. Selected All PEP Outcomes**

| Outcome Type | Question | Mean Pre | SD Pre | Mean Post | SD Post | Diff. in Means | t | df | P |
|---|---|---|---|---|---|---|---|---|---|
| **Student Self-Efficacy** | Pair 1<br>I am able to do things as well as most other people. | 4.39 | 0.809 | 4.55 | 0.641 | 0.16 | -2.741 | 149 | 0.007** |
| **Buckeye Community/ Belonging** | Pair 2<br>I feel a sense of belonging at OSU. | 3.39 | 0.654 | 3.63 | 0.572 | 0.24 | -4.508 | 149 | 0.000** |
| **Buckeye Community/ Belonging** | Pair 3<br>I would choose OSU, if I had it to do over again. | 3.49 | 0.663 | 3.64 | 0.571 | 0.147 | -2.963 | 149 | 0.004** |
| **Leadership** | Pair 4<br>I can contribute meaningfully to the growth of my community as a leader. | 4.36 | 0.747 | 4.53 | 0.644 | 0.173 | -2.13 | 74 | 0.036* |
| **Transfer Skills to Everyday Life** | Pair 5<br>I expect to apply skills I learn in my program to everyday circumstances in college. | 4.21 | 0.801 | 4.33 | 0.662 | 0.128 | -0.927 | 38 | 0.36 |
| **Student Self-Efficacy** | Pair 6<br>I feel that I am a person of worth, at least on an equal plane with others | 4.61 | 0.684 | 4.59 | 0.667 | -0.013 | 0.226 | 149 | 0.822 |
| **Relationship with Peers** | Pair 7<br>I will be meeting people and making friends in college. | 4.77 | 0.494 | 4.71 | 0.597 | -0.067 | 1.391 | 149 | 0.166 |
| | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Confidence in Transition** | Pair 8<br>Sometimes I feel that I don't have control over the direction my life is taking. | 2.4 | 1.093 | 2.45 | 1.156 | 0.047 | -0.572 | 149 | 0.568 |

The figure below illustrates the results of all PEP outcomes. Each pair is associated with the previous outcomes shown in the Table 3.

**Figure 2. Selected All PEP Outcomes**




The paired samples t-test used in this study indicated a significant difference in twelve of the thirty-eight questions for all PEP participants. These significant differences occurred between the following six different outcomes types: student self-efficacy; relationship with staff, faculty, and facilitators; Buckeye community/belonging; confidence in transition; team/group contributions; and leadership. Of these questions, positive changes occurred in students'

perceptions of their sense of belonging at OSU at a 99% significant level for two questions: “I feel a sense of belong at OSU” and “I would choose OSU, if I had to do it over again.”

# Chapter V

## Discussion

This section describes the meaning of this study. It covers the key findings of this study, the limitations, implications, and recommendations.

### Key Findings

The focus of this study is to determine the impact outdoor orientation programs have on students at The Ohio State University. The findings from the CHEE survey evaluations suggest that particular outcomes are significant in altering students' perceptions after having attended pre-enrollment programs.

For the outdoor adventure PEP trips, **t**he first two significant questions indicate a decline in students' perceptions of their relationships with peers and their confidence in transition: "I will be meeting people and making friends in college; Sometimes I feel that I don't have control over the direction my life is taking". Despite the decline in student perceptions, it must be understood that outcome results are not indicative of program success. This decline in perceptions could be due to students' new conceptualizations about their relationships and ability to control factors in their life. These students may have developed significantly deeper relationships with others while in an outdoor setting. These students may now they think it will be hard to develop as significant of relationships with others in an everyday campus environment. Students may have also experienced the realities of environmental forces that are often out of one's ability to control. This new experience may in turn cause them to realize that similar factors in college may be out of their control.

Students' perceptions of their team/group contribution and outdoor skills significantly increased in two questions on the survey: "I am comfortable providing feedback to peers when necessary; I am aware of the impact I have on the environment". These results may be directly related to the emphasis of teaching leadership and technical skills that outdoor orientation programs often instill in participants (Gass, Garvey, Sugerman, 2003). Specifically it is interesting that the team/group contribution question that increased was focused on students' perceptions of their ability to give feedback to peers. Feedback and evaluation of decisions are also commonly emphasized on outdoor orientation programs, particularly in programs that draw on an OB model of daily group processing discussions of experiences.

When comparing these results to those of all pre-enrollment programs at The Ohio State University, it is interesting to notice the differences in which questions were significantly different. Of particular note, while outdoor adventure programs did increase on all questions in the Buckeye Community/Belonging outcome group, these changes were not significant. However, when comparing this to all PEP participants, two of the three questions in this outcome group were significant to a level of 99% confidence, as mentioned in Chapter IV. These results suggest that while the literature has found outdoor programs to be more effective on outcome measures around sense of belonging compared to other types of orientation programs (Bell, 2012), this is not the case with the current evaluations of pre-enrollment programs at OSU.

**Limitations**

Different limitations existed with this study and its evaluation design. While the pre-post test design of the study helps in the ability to track the impact programs may have, survey respondents may not have realistic viewpoints when they took their survey. This limitation in evaluation design may be responsible for the decline in certain outcomes rather than programs

negatively impacting students. The use of a retrospective pre-post test, in which participants respond at the end of the program for both their response to questions after their program but also for what they perceived their response would have been before their program, could be used for future evaluations to account for this limitation. Additionally the specific survey evaluation design has limits in terms of when the posttest is administered. PEP participants are given the posttest survey immediately upon completion of their program. While this design is intended to prevent additional factors outside of the impact of the program being responsible for the changes in response, it does not allow for participants to reflect after their trip is concluded. Adding a longitudinal component to the evaluation design would allow to reflect for impacts of the program that participants realize only after completion of their program.

Another limitation that occurred with this study is the low sample size for the outdoor adventure programs. Due to lower than expected response rate, the outdoor adventure sample size was only twelve individuals. This low sample size may impact the reliability of the results generated in this study. The reasoning for the low response may be due to a variety of factors. In particular, there may be a lack of understanding of the value of evaluation across the chain of those involved in the process. While program directors who send out the survey may understand the importance of evaluation, individual facilitators who directly work with participants may not. Another component to this response rate issue may be that outdoor program participants do not associate their experience with the questions asked in the survey. This could be due to the survey using the same questions for multiple programs, however the additional outdoor specific questions may partially address this issue.

An additional limitation occurred with how much was room for change was available to participants between their pre and posttest surveys. Many questions throughout the pre-survey

had 90% of the responses in the agree or strongly agree options. These skewed responses exhibit the "ceiling effect" in that there is not room for participants to improve based on their participation due to their already high score. This limitation may exist either due to how questions were worded or in the types of students who participate in pre-enrollment programs. The lack of a control group in the evaluation design also plays into this limitation due to not being able to know if it is simply the questions or the type of students involved.

**Implications**

The results from this study suggest that outdoor orientation programs at The Ohio State University impact students' perceptions on a variety of topics. Additionally, students who participate in outdoor adventure PEP trips have different results than all PEPs. These differences may suggest that while all pre-enrollment programs improve sense of belonging amongst students, it may be that outdoor orientation programs are best at developing other outcomes.

While this study did not find outdoor adventure PEP participants' results to be significantly different in terms of sense of belonging, as the literature would suggest it might, this could be due to a couple different reasons. One of the reasons for this may be that the outdoor adventures pre-enrollment programs here at OSU are not as effective in developing a sense of belonging as those that have been studied in previous research (Bell, 2012). Another reason is that the evaluations used result in different findings. Since the survey used in this study was not the same survey used in other studies, it could be that survey itself is the limiting factor in not seeing differences between programs. Additionally sense of belonging is a generalized outcome that ranges from sense of belonging with each other to belonging to one's school.

**Recommendations**

While the evaluations that led to these results have been a great start to beginning the process of developing empirical evidence on outdoor orientation programs at The Ohio State University, future research can improve our evaluative understanding. As indicated with the limitations of the survey, improving upon the low response rate for outdoor programs will help improve the reliability of results generated. In addition to helping increase the response rates for evaluations conducted by CHEE, establishing a strategic plan of evaluation of outdoor orientation programs would help direct future research. A better understanding of what student outcomes OSU's outdoor orientation programs are most interested in tracking, would help guide the direction of which surveys and methodologies would be most appropriate.

As described above, the specific evaluation instruments used can impact the ability to track a programs' impact. A study that used a mixed-methods approach between quantitative surveys as well as qualitative measures would be interesting to pursue. This study could have groups of participants participate in different survey methods. This comparison could incorporate instruments such as the COASP evaluation used in this study as well as the Outdoor Orientation Benchmark Survey (TOOBS) developed by Brent Bell, (Bell, Gass, Nafziger, and Starbuck, 2014). This comparison between different surveys could help analyze the impact survey instruments have on the ability to track student outcomes from participating in orientation programs. This comparison of survey techniques could also incorporate qualitative techniques such as group interviews and logic models to track which components of their orientation program made the biggest impact for them.

Additionally, having a control group with students who did not participate in the orientation programs would be interesting to compare how these programs do in terms of other

factors such as GPA, student involvement on campus, and retention rates. Longitudinal aspects to these studies would be very help in tracking the long-term impact these programs have. These efforts would help continue to build upon the knowledge of the value that outdoor orientation programs offer students in their transition to college.

## Appendix A

Specific Program Outcomes

| | Self-Efficacy | Relationships/ Peers | Relationships Staff, faculty, facilitators | Part of Buckeye Community/ Belonging | Confidence in transition | | Team/Group Contributions | Outdoor Skills | Transfer Skills to Everyday Life | Leadership |
|---|---|---|---|---|---|---|---|---|---|---|
| **Appalachian Trail Adventure*** | x | x | x | x | x | | x | x | x | x |
| **Buckeye Adventures on the Gorge (OAC)*** | x | x | x | x | x | | x | x | x | x |
| **Buckeye Adventures Transfer (FYE)** | x | x | x | x | x | | x | | x | |
| **Buckeye Service Connection** | x | x | x | x | x | | x | | | |
| **Buckeyes First** | x | x | x | x | x | | x | | | |
| **Early Arrival Program** | x | x | x | x | x | | x | | x | x |
| **H&S: Hocking Hills Zip, Canoe, Ride*** | x | x | x | x | x | | x | x | x | x |
| **Leadership Collaborative** | x | x | x | x | x | | x | | | x |
| **LSAMP STEM Summer Bridge Program** | x | x | x | x | x | | x | | | |
| **PREFACE** | x | x | x | x | x | | x | | | |
| **R-LEAD** | x | x | x | x | x | | x | | | x |
| **Sea Kayaking Pictured Rocks*** | x | x | x | x | x | | x | x | x | x |
| **WiE LEAP** | x | x | x | x | x | | x | | | |
| **Young Scholars - Summer Bridge Program** | x | x | x | x | x | | x | | x | x |

## Appendix B

Complete Outdoor Adventure PEP Outcomes

| Outcome Type | Question | Mean Pre | SD Pre | Mean Post | SD Post | Diff. in Means | t | df | P |
|---|---|---|---|---|---|---|---|---|---|
| **Student Self-Efficacy** | I feel that I am a person of worth, at least on an equal plane with others | 4 | 1.348 | 4.5 | 0.674 | 0.5 | -1.254 | 11 | 0.236 |
| **Student Self-Efficacy** | I feel that I have a number of good qualities. | 4 | 1.206 | 4.5 | 0.522 | 0.5 | -1.393 | 11 | 0.191 |
| **Student Self-Efficacy** | I am able to do things as well as most other people. | 3.83 | 1.267 | 4.17 | 0.718 | 0.333 | -0.886 | 11 | 0.394 |
| **Student Self-Efficacy** | I am confident in my ability to earn a cumulative 3.0 GPA in college. | 4.17 | 1.337 | 4.33 | 0.888 | 0.167 | -0.432 | 11 | 0.674 |
| **Student Self-Efficacy** | I am confident in my ability to complete assignments and projects. | 4.25 | 1.215 | 4.33 | 0.778 | 0.083 | -0.192 | 11 | 0.851 |
| **Relationship with Peers** | I will be meeting people and making friends in college. | 4.83 | 0.389 | 4.42 | 0.669 | -0.417 | 2.803 | 11 | 0.017* |
| **Relationship with Peers** | There will be a special person on campus with whom I can share my joys and sorrows. | 3.75 | 1.055 | 3.33 | 1.155 | -0.417 | 1.332 | 11 | 0.21 |
| **Relationship with Peers** | There will be another student on campus who cares about my feelings. | 4.17 | 0.835 | 4.08 | 0.515 | -0.083 | 0.364 | 11 | 0.723 |
| **Relationship with Peers** | I will be able to talk about my problems with another student on campus. | 4 | 0.853 | 4.08 | 0.669 | 0.083 | -0.321 | 11 | 0.754 |
| **Relationship with Staff, Faculty, and Facilitators** | I will frequently have informal contact with professors or university staff. | 3.58 | 0.793 | 2.75 | 1.215 | -0.833 | 2.057 | 11 | 0.064 |
| **Relationship with Staff, Faculty, and Facilitators** | Faculty/staff at OSU believe in me and my ability to excel. | 4.08 | 0.515 | 3.83 | 0.718 | -0.25 | 1.393 | 11 | 0.191 |
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|---|---|---|---|---|---|---|---|---|---|
| **Relationship with Staff, Faculty, and Facilitators** | I expect to feel unsupported by faculty/staff. | 2.17 | 1.267 | 1.83 | 1.03 | -0.333 | 0.771 | 11 | 0.457 |
| **Relationship with Staff, Faculty, and Facilitators** | I know an OSU staff or faculty member who could be my mentor. | 2.33 | 1.435 | 3.25 | 1.288 | 0.917 | -1.836 | 11 | 0.094 |
| **Buckeye Community/Belonging** | I feel a sense of belonging at OSU. | 3.17 | 0.718 | 3.42 | 0.669 | 0.25 | -1.149 | 11 | 0.275 |
| **Buckeye Community/Belonging** | I would choose OSU, if I had it to do over again. | 3.17 | 0.835 | 3.25 | 0.754 | 0.083 | -1 | 11 | 0.339 |
| **Buckeye Community/Belonging** | Friends would miss me if I left OSU. | 2.67 | 1.073 | 2.92 | 0.793 | 0.25 | -1.915 | 11 | 0.082 |
| **Confidence in Transition** | I feel that I am ready for the transition to college life. | 3.92 | 0.9 | 3.92 | 1.084 | 0 | 0 | 11 | 1 |
| **Confidence in Transition** | I am confident that I will do well in college. | 4.17 | 0.835 | 3.83 | 0.937 | -0.333 | 1.773 | 11 | 0.104 |
| **Confidence in Transition** | Sometimes I feel that I don't have control over the direction my life is taking. | 2.17 | 0.835 | 3.08 | 0.9 | 0.917 | -4.005 | 11 | 0.002** |
| **Confidence in Transition** | I am having second thoughts about going to college. | 1.25 | 0.452 | 1.42 | 0.669 | 0.167 | -0.692 | 11 | 0.504 |
| **Team/Group Contributions** | I am confident in my ability to work on projects with a team. | 4 | 0.739 | 4.25 | 0.622 | 0.25 | -1 | 11 | 0.339 |
| **Team/Group Contributions** | I am comfortable providing feedback to peers when necessary. | 3.58 | 0.9 | 4.17 | 0.835 | 0.583 | -2.244 | 11 | 0.046* |
| **Team/Group Contributions** | Different perspectives strengthen group work. | 4.58 | 0.793 | 4.42 | 0.793 | -0.167 | 0.692 | 11 | 0.504 |
| **Outdoor Skills** | I am confident in my ability to lead an outdoor trip on my own. | 2.92 | 1.311 | 3.08 | 1.379 | 0.167 | -0.616 | 11 | 0.551 |
| **Outdoor Skills** | I am capable of stepping out of my comfort zone. | 4.17 | 0.577 | 4.42 | 0.669 | 0.25 | -0.821 | 11 | 0.429 |
| **Outdoor Skills** | I am confident in my ability to perform technical outdoor skills. | 3.67 | 1.231 | 3.92 | 0.996 | 0.25 | -0.821 | 11 | 0.429 |
| **Outdoor Skills** | I am aware of the impact I have on the | 4.25 | 0.866 | 4.58 | 0.515 | 0.333 | -2.345 | 11 | 0.039* |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | environment | | | | | | | | |
| **Outdoor Skills** | Experiencing the outdoors is important to me personally. | 4.58 | 0.669 | 4.5 | 0.522 | -0.083 | 0.561 | 11 | 0.586 |
| **Outdoor Skills** | I understand and appreciate the outdoors. | 4.75 | 0.452 | 4.58 | 0.515 | -0.167 | 1 | 11 | 0.339 |
| **Transfer Skills to Everyday Life** | I expect to apply skills I learn in my program to everyday circumstances in college. | 3.75 | 1.055 | 4.08 | 0.793 | 0.333 | -1.076 | 11 | 0.305 |
| **Transfer Skills to Everyday Life** | When faced with a problem, I think critically to come up with a good solution. | 4.5 | 0.522 | 4.42 | 0.669 | -0.083 | 0.364 | 11 | 0.723 |
| **Transfer Skills to Everyday Life** | I am comfortable stepping up to a leadership role in a group. | 4.58 | 0.669 | 4.33 | 0.651 | -0.25 | 1.915 | 11 | 0.082 |
| **Transfer Skills to Everyday Life** | I can make the best out of a negative situation. | 4 | 0.603 | 4.25 | 0.622 | 0.25 | -1.149 | 11 | 0.275 |
| **Transfer Skills to Everyday Life** | I am confident in my ability to bounce back from failure. | 3.92 | 0.9 | 4.17 | 0.577 | 0.25 | -0.821 | 11 | 0.429 |
| **Leadership** | I have many qualities and traits of a good leader. | 4.25 | 0.622 | 4.33 | 0.492 | 0.083 | -0.561 | 11 | 0.586 |
| **Leadership** | I am comfortable allocating roles and assigning tasks to others. | 4 | 1.044 | 4.17 | 0.937 | 0.167 | -0.692 | 11 | 0.504 |
| **Leadership** | I am confident that I can be an effective leader among my peers. | 4.17 | 0.835 | 4.33 | 0.651 | 0.167 | -0.692 | 11 | 0.504 |
| **Leadership** | I can contribute meaningfully to the growth of my community as a leader. | 4.17 | 0.718 | 4.33 | 0.778 | 0.167 | -1 | 11 | 0.339 |

## Appendix C

Complete All PEP Outcomes

| Outcome Type | Question | Mean Pre | SD Pre | Mean Post | SD Post | Diff. in Means | t | df | P |
|---|---|---|---|---|---|---|---|---|---|
| **Student Self-Efficacy** | I feel that I am a person of worth, at least on an equal plane with others | 4.61 | 0.684 | 4.59 | 0.667 | -0.013 | 0.226 | 149 | 0.822 |
| **Student Self-Efficacy** | I feel that I have a number of good qualities. | 4.57 | 0.66 | 4.64 | 0.605 | 0.073 | -1.368 | 149 | 0.173 |
| **Student Self-Efficacy** | I am able to do things as well as most other people. | 4.39 | 0.809 | 4.55 | 0.641 | 0.16 | -2.741 | 149 | 0.007** |
| **Student Self-Efficacy** | I am confident in my ability to earn a cumulative 3.0 GPA in college. | 4.75 | 0.57 | 4.73 | 0.527 | -0.013 | 0.276 | 149 | 0.783 |
| **Student Self-Efficacy** | I am confident in my ability to complete assignments and projects. | 4.69 | 0.601 | 4.7 | 0.565 | 0.007 | -0.12 | 149 | 0.905 |
| **Relationship with Peers** | I will be meeting people and making friends in college. | 4.77 | 0.494 | 4.71 | 0.597 | -0.067 | 1.391 | 149 | 0.166 |
| **Relationship with Peers** | There will be a special person on campus with whom I can share my joys and sorrows. | 3.84 | 1.037 | 3.69 | 1.242 | -0.147 | 1.503 | 149 | 0.135 |
| **Relationship with Peers** | There will be another student on campus who cares about my feelings. | 4.19 | 0.903 | 4.11 | 0.973 | -0.08 | 1.037 | 149 | 0.301 |
| **Relationship with Peers** | I will be able to talk about my problems with another student on campus. | 4.12 | 0.926 | 4.13 | 0.974 | 0.013 | -0.172 | 149 | 0.864 |
| **Relationship with Staff, Faculty, and Facilitators** | I will frequently have informal contact with professors or university staff. | 3.26 | 1.096 | 2.86 | 1.129 | -0.4 | 3.587 | 149 | 0.000** |
| **Relationship with Staff, Faculty, and Facilitators** | Faculty/staff at OSU believe in me and my ability to excel. | 4.18 | 0.742 | 4.15 | 0.873 | -0.027 | 0.367 | 149 | 0.714 |
| **Relationship with Staff, Faculty, and Facilitators** | I expect to feel unsupported by faculty/staff. | 1.79 | 1.019 | 1.79 | 1.066 | -0.007 | 0.059 | 149 | 0.953 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Relationship with Staff, Faculty, and Facilitators** | I know an OSU staff or faculty member who could be my mentor. | 2.7 | 1.325 | 3.77 | 1.19 | 1.067 | -8.841 | 149 | 0.000** |
| **Buckeye Community/Belonging** | I feel a sense of belonging at OSU. | 3.39 | 0.654 | 3.63 | 0.572 | 0.24 | -4.508 | 149 | 0.000** |
| **Buckeye Community/Belonging** | I would choose OSU, if I had it to do over again. | 3.49 | 0.663 | 3.64 | 0.571 | 0.147 | -2.963 | 149 | 0.004** |
| **Buckeye Community/Belonging** | Friends would miss me if I left OSU. | 2.93 | 0.864 | 3.31 | 0.804 | 0.38 | -5.483 | 149 | 0.000** |
| **Confidence in Transition** | I feel that I am ready for the transition to college life. | 4.09 | 0.9 | 4.32 | 0.805 | 0.227 | -2.882 | 149 | 0.005** |
| **Confidence in Transition** | I am confident that I will do well in college. | 4.33 | 0.755 | 4.43 | 0.698 | 0.1 | -1.793 | 149 | 0.075 |
| **Confidence in Transition** | Sometimes I feel that I don't have control over the direction my life is taking. | 2.4 | 1.093 | 2.45 | 1.156 | 0.047 | -0.572 | 149 | 0.568 |
| **Confidence in Transition** | I am having second thoughts about going to college. | 1.28 | 0.646 | 1.35 | 0.777 | 0.067 | -0.897 | 149 | 0.371 |
| **Team/Group Contributions** | I am confident in my ability to work on projects with a team. | 4.24 | 0.774 | 4.37 | 0.7 | 0.133 | -2.02 | 149 | 0.045* |
| **Team/Group Contributions** | I am comfortable providing feedback to peers when necessary. | 4.04 | 0.842 | 4.32 | 0.754 | 0.28 | -4.023 | 149 | 0.000** |
| **Team/Group Contributions** | Different perspectives strengthen group work. | 4.54 | 0.662 | 4.64 | 0.627 | 0.1 | -1.58 | 149 | 0.116 |
| **Outdoor Skills** | I am confident in my ability to lead an outdoor trip on my own. | 2.92 | 1.311 | 3.08 | 1.379 | 0.167 | -0.616 | 11 | 0.551 |
| **Outdoor Skills** | I am capable of stepping out of my comfort zone. | 4.17 | 0.577 | 4.42 | 0.669 | 0.25 | -0.821 | 11 | 0.429 |
| **Outdoor Skills** | I am confident in my ability to perform technical outdoor skills. | 3.67 | 1.231 | 3.92 | 0.996 | 0.25 | -0.821 | 11 | 0.429 |
| **Outdoor Skills** | I am aware of the impact I have on the environment | 4.25 | 0.866 | 4.58 | 0.515 | 0.333 | -2.345 | 11 | 0.039* |
| **Outdoor Skills** | Experiencing the outdoors is important to me personally. | 4.58 | 0.669 | 4.5 | 0.522 | -0.083 | 0.561 | 11 | 0.586 |
| **Outdoor Skills** | I understand and appreciate the outdoors. | 4.75 | 0.452 | 4.58 | 0.515 | -0.167 | 1 | 11 | 0.339 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Transfer Skills to Everyday Life** | I expect to apply skills I learn in my program to everyday circumstances in college. | 4.21 | 0.801 | 4.33 | 0.662 | 0.128 | -0.927 | 38 | 0.36 |
| **Transfer Skills to Everyday Life** | When faced with a problem, I think critically to come up with a good solution. | 4.41 | 0.595 | 4.41 | 0.637 | 0 | 0 | 38 | 1 |
| **Transfer Skills to Everyday Life** | I am comfortable stepping up to a leadership role in a group. | 4.31 | 0.863 | 4.23 | 0.777 | -0.077 | 0.621 | 38 | 0.539 |
| **Transfer Skills to Everyday Life** | I can make the best out of a negative situation. | 3.97 | 0.668 | 4.23 | 0.777 | 0.256 | -1.885 | 38 | 0.067 |
| **Transfer Skills to Everyday Life** | I am confident in my ability to bounce back from failure. | 4.23 | 0.742 | 4.36 | 0.628 | 0.128 | -0.927 | 38 | 0.36 |
| **Leadership** | I have many qualities and traits of a good leader. | 4.32 | 0.774 | 4.53 | 0.6 | 0.213 | -2.435 | 74 | 0.017* |
| **Leadership** | I am comfortable allocating roles and assigning tasks to others. | 4.21 | 0.92 | 4.31 | 0.838 | 0.093 | -1.095 | 74 | 0.277 |
| **Leadership** | I am confident that I can be an effective leader among my peers. | 4.25 | 0.931 | 4.45 | 0.684 | 0.2 | -2.299 | 74 | 0.024* |
| **Leadership** | I can contribute meaningfully to the growth of my community as a leader. | 4.36 | 0.747 | 4.53 | 0.644 | 0.173 | -2.13 | 74 | 0.036* |

## References


Bell, B., (2006). Wilderness orientation: exploring the relationship between college preorientation programs and social support. *Journal of Experiential Education,* 29(2), 145-167.

Bell, B. (2012). *Assessing the effectiveness of an adventure-based first-year experience class.* Journal of College Student Development, 53(2), 347-355.

Bell, B., Gass, M.A., Nafziger, C.S., and Starbuck, J.D., (2014). The state of knowledge of outdoor orientation programs: current practices, research, and theory. *Journal of Experiential Education,* 37(1) 31-45.

Bell, B., Holmes, M., Vigneault, B., and Williams, B. (2008). Student involvement: critical concerns of outdoor orientation programs. *Journal of Experiential Education,* 30 (3), 253-257.

Bell, B., Holmes, M. R., and Williams, B. (2010). A census of outdoor orientation programs at four-year college in the United States. *Journal of Experiential Education,* 33 (1), 1-18.

Galloway, S. P., (2000). Assessment in wilderness orientation programs: efforts to improve college student retention. *Journal of Experiential Education,* 23(2), 75-84.

Gass, M.A., Garvey, D.E., and Sugerman, D.A., (2003). The long-term effects of a first-year student wilderness orientation program. *Journal of Experiential Education,* 26(1), 34-40.

Kellert, S.R., (1998). *A national study of outdoor wilderness experience*. Yale University, New Haven, CT.

Kolb, D.A. (1984). Experiential Learning: Experience as the source of learning and development. New Jersey: Prentice Hall.

Lekies, K.S., Bennett, A. H., Krogel, A., (2009). *A study of youth perspective and impacts.* The Ohio State University and Ohio State University Extension.

Upcraft, M. L., and Farnsworth, W. M., (1984). Orientation programs and activities. *New Directions for Student Services,* 1984(25), 27-38.